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PATENT SPECIFICATION

DRAWINGS ATTACHED

914552

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COMPLETE SPECIFICATION

Improvements in or relating to Sheded Electrical Insulators

We, THE ENGLISH ELECTRIC COMPANY LIMITED, of Queens House, 28, Kingsway, London, W.C.2, a British Company, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to shedded electrical insulators, that is to say to insulators of generally cylindrical form, provided with a series of outwardly-projecting annular sheds, these sheds serving to lengthen the electrical creepage path between the ends of the insulator and to ensure that atmospheric dust or moisture deposited on the surface of the insulator cannot form a continuous conductive path throughout its length. In the majority of insulators, which are intended for mounting with their axes vertical, or at an angle other than horizontal, the sheds of the insulator are arranged to project outwardly and downwardly from the body of the insulator. An insulator intended for horizontal mounting may have its sheds, which in this case serve primarily to lengthen the insulator creepage path, formed as flat annular projections from its body.

According to the invention, a shedded electrical insulator comprises two or more sections each formed as an annular member of thermosetting-resin-bonded fibre-reinforced material defined by surfaces of revolution about the axis of the insulator, the sections nesting together to form the insulator and at least one section having an outwardly-projecting shed formed integral therewith. Preferably the shed is formed by an annular member. Preferably also the sections are bounded by planes normal to the axis.

The nesting sections may be cemented to-

40 the annular member. Preferably also the outwardly-flared end portion at one edge of the shed is formed by an

35 wadly-projecting shed formed integral therewith. Preferably the shed is formed by an annular member. Preferably also the sections are bounded by planes normal to the axis.

5 The sections 10 are formed by shaping a mat of glass-fibre reinforcement in a mould to the appropriate section, impregnating it with an epoxy resin and curing the resin. The outer surfaces of the conical sections 11, and both surfaces of the sheds, 12, are coated with butyl rubber containing an oxidising agent, preferably hydrated alumina. An alternative method of construction is to stretch a knitted "stocking" of glass cloth over a male mould, repeating until a number of layers are built up, and then impregnating

85 the drawing accompanying the provisional specification illustrates diagrammatically a section of a shedded electrical insulator embodying the preferred form of the invention. In the drawing, the reference 10 denotes the individual sections of the insulator, each section comprising a short truncated conical body section 11 and a divergent shed 12. The upper, smaller end of each section 10 nests within the lower end of the section immediately above it, the sections being retained together either by cementing or by maintaining the stack of sections in compression. The sections 10 are formed by shaping a mat of glass-fibre reinforcement in a mould to the appropriate section, impregnating it with an epoxy resin and curing the resin. The outer surfaces of the conical sections 11, and both surfaces of the sheds, 12, are coated with butyl rubber containing an oxidising agent, preferably hydrated alumina. An alternative method of construction is to stretch a knitted "stocking" of glass cloth over a male mould, repeating until a number of layers are built up, and then impregnating

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with resin after the female mould is placed over the assembly.

Tracking paths between the ends of the insulator can be formed either by the deposition of atmospheric carbon on the surface of the insulator or by the decomposition of the carboniferous material of the sections 10 should a flash-over occur between the ends of the insulator. The oxidising agent contained in the butyl rubber oxidises such carbon to prevent the formation of a permanent tracking path.

It will be seen that the general construction of nesting sections employed in the manufacture of this insulator enables insulators of varying length to be readily prepared from stock sections, and the insulator may readily be dismantled to permit the replacement of a damaged section. The glass-fibre-reinforced resin sections are stronger than the ceramic insulating materials hitherto employed for this purpose, thus simplifying the construction of the insulator and of the apparatus of which it forms part.

WHAT WE CLAIM IS:—

1. A shedded electrical insulator comprising two or more sections each formed as an annular member of thermosetting-resin-bonded fibre-reinforced material defined by surfaces of revolution about the axis of the insulator, the sections nesting together to form the insulator, and at least one section having an outwardly-projecting shed formed integral therewith.

2. An insulator as claimed in Claim 1 integral therewith.

3. An insulator as claimed in Claim 1 wherein the shed is formed by planes normal to the axis.

4. An insulator as claimed in any of Claims 1 to 3, wherein the sections are formed by epoxy-resin-bonded glass-fibre-reinforced material.

5. An insulator as claimed in any of Claims 1 to 4 wherein at least the sheds and other external parts of the sections are made of such material or are coated with or impregnated with such material that carbon is deposited or formed on the insulator surface or oxidised to prevent the formation of a tracking path.

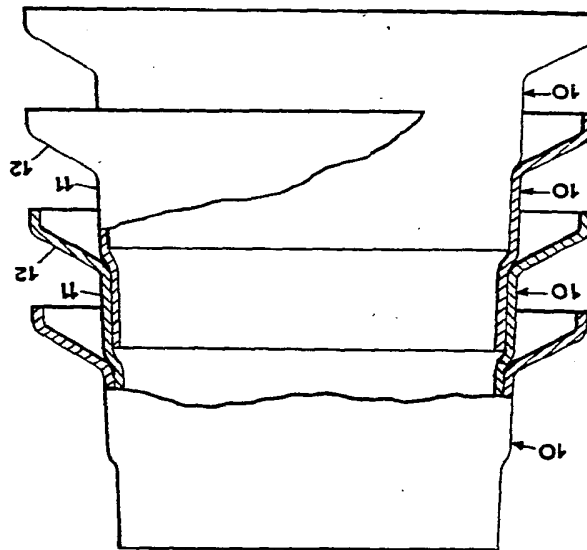
6. An insulator as claimed in Claim 5 when dependant on Claim 4 wherein said material includes an oxidising agent.

7. An insulator as claimed in Claim 5 wherein the external parts of the sections are coated with butyl rubber containing an oxidising agent.

8. An insulator as claimed in Claim 7, wherein the oxidising agent is hydrated alumina.

9. A hollow shedded electrical insulator substantially as herein described with reference to the drawing accompanying the provisional specification.

D. WHALEY,
Chartered Patent Agent.



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PROVISIONAL SPECIFICATION
1 SHEET
This drawing is a reproduction of
the Original on a reduced scale

